

**BEFORE THE WASHINGTON STATE  
UTILITIES AND TRANSPORTATION COMMISSION**

**In the Matter of the Petition for Arbitration of  
an Interconnection Agreement Between  
CHARTER FIBERLINK WA-CCVII, LLC.  
and QWEST CORPORATION Pursuant to 47  
U.S.C. Section 252 (b)**

**DOCKET NO. UT-083041**

**DIRECT TESTIMONY  
OF PHILIP LINSE  
QWEST CORPORATION**

**(Disputed Issue Nos. 13 and 16)**

**DATE OCTOBER 8, 2008**

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1 in the Network organization. Since my promotion in 2003, the Technical  
2 Regulatory group has been realigned and is now part of the Policy organization. In  
3 my new role, I also develop and direct the implementation of network policies. In  
4 addition, I also represent Qwest in industry technical standards setting groups such  
5 as the FCC's Network Reliability and Interoperability Council ("NRIC") and the  
6 Network Interconnection Interoperability Forum ("NIIF").

7 **Q. HAVE YOU TESTIFIED PREVIOUSLY IN WASHINGTON?**

8 A. Yes. I have most recently testified on behalf of Qwest in both the arbitration of an  
9 interconnection agreement with Level 3 (Docket No. UT-063006) and the Qwest  
10 complaint proceeding regarding VNXX (Docket No. UT-063038).

11 **II. PURPOSE OF TESTIMONY**

12 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 A. The purpose of my testimony is to explain Qwest's positions from a network  
14 perspective as they relate to the disputed issues between the parties. My testimony  
15 will show that the Qwest positions on these issues are technically sound, reasonable  
16 and meet or exceed Qwest's interconnection obligations. Specifically, my testimony  
17 will address the following issues from the Matrix of Unresolved Issues filed by  
18 Charter in this arbitration:

- 19
- 20       ▪ Issue 13: Transport Obligations
  - 21       ▪ Issue 16: Indirect Interconnection
- 22

1 **III. INTERCONNECTION**

2 **Q. WHAT IS INTERCONNECTION?**

3 A. Interconnection is the linking of two networks for the mutual exchange of traffic.  
4 When two networks interconnect, network infrastructure is needed to bridge the gap  
5 between the networks. This gap may be a few feet apart as is the case when a  
6 CLEC collocates in a Qwest central office or it may be many miles apart if the  
7 networks are located in different cities.

8 **Q. WHAT IS A POINT OF INTERCONNECTION?**

9 A. A Point of Interconnection or "POI" is the point where two networks meet.

10 **Q. WHAT INTERCONNECTION ALTERNATIVES DOES QWEST OFFER**  
11 **TO CLECS SUCH AS CHARTER?**

12 A. Qwest has developed four interconnection facility arrangements or methods of  
13 establishing interconnection with Qwest: (1) DS1 or DS3 Qwest provided entrance  
14 facility; (2) Collocation; (3) negotiated Mid-Span Meet POI facilities; and (4) other  
15 Technically Feasible methods of Interconnection. Charter may use any or all of  
16 these options to establish interconnection with Qwest.

17 The "DS1 or DS3 Qwest provided entrance facility" is an option for establishing  
18 interconnection where Qwest provisions or builds a physical transmission path to  
19 the Charter POI. The transmission path is typically made up of fiber or copper  
20 conductors provisioned either at the DS1 level of transmission or at a DS3 level of  
21 transmission. DS1 and DS3 entrance facilities are merely different capacities of  
22 transmission facilities that Qwest provisions or builds to Charter's POI. Each

1 provides the capability to carry many simultaneous call paths. A DS1 has the  
2 capacity of carrying 24 simultaneous voice grade transmission paths while a DS3  
3 may allow 672 simultaneous voice grade transmission paths.

4 Collocation is an option by which Charter may extend its facilities into a Qwest  
5 central office and terminate them to collocate within that central office and establish  
6 its POI. Qwest would then provision or build interconnection facilities to the  
7 Charter Collocation. This Collocation may also be a third party Collocation.

8 “Negotiated Mid-Span Meet POI facilities” is an option where Charter extends its  
9 own facilities to a negotiated point approximately half way between the Charter  
10 point of presence within Qwest local service area and the Qwest serving central  
11 office building. A point of presence is a location within Qwest’s local service area  
12 that Charter would use to obtain access to the Qwest local network. The Mid-Span  
13 Meet POI facility arrangement is used when Charter chooses not to have Qwest  
14 build entrance facilities to Charter’s point of presence or chooses not to build its  
15 own facilities to a collocation space within Qwest’s central office. With this  
16 arrangement, Charter builds its portion of the transport facilities while Qwest builds  
17 its portion of its transport facilities to an agreeable location for interconnection at  
18 about the midpoint between Charter’s point of presence and Qwest’s central office.  
19 This allows Charter and Qwest to equally share in the cost of building the transport  
20 required for Charter to interconnect with Qwest.

1 “Other Technically Feasible methods of Interconnection” is an option when there is  
2 an alternate method of interconnection. This is done through a Bona Fide Request  
3 (“BFR”). The BFR enables Qwest to validate the technical feasibility of the  
4 alternate method to facilitate interconnection. Interconnection is not the only use of  
5 the BFR. A BFR can be used for other requests such as those associated with  
6 access to Unbundled Network Elements that may not be currently available.

7 **Q. WHAT IS DIRECT TRUNKED TRANSPORT?**

8 A. Direct Trunked Transport or “DTT” provides for a transmission path between one  
9 of the four interconnection facility arrangements described above and any of the  
10 Qwest central office switches within the LATA. Through the use of DTT CLECs  
11 are able to route traffic to the various Qwest end offices. Exhibits PL-2, PL-3, and  
12 PL-4 show how DTT is used in connection with the Local Interconnection Service  
13 facility arrangements that were described above.

14 **Q. DOES QWEST PROVIDE DTT TO LOCATIONS OTHER THAN QWEST**  
15 **SWITCHES?**

16 A. No. The only purpose for Qwest’s DTT is to provide a transmission path between  
17 the interconnection method chosen by a CLEC and Qwest switches.

18 **Q. IS QWEST’S DTT THE ONLY WAY FOR CLECS LIKE CHARTER TO**  
19 **OBTAIN TRANSMISSION PATH BETWEEN THE QWEST SERVING**  
20 **WIRE CENTER OF CHARTER’S POI AND ANY OF QWEST’S CENTRAL**  
21 **OFFICES?**

1 A. No. Charter may alternatively use another provider or build its own transmission  
2 path. Other service providers also offer transmission paths between Qwest's central  
3 offices and may offer this capability to Charter pursuant to some type of agreement.  
4 In addition, Charter may at its option build its own transmission path between  
5 Qwest's central offices. Once Charter obtains such a transmission path Charter  
6 would then obtain interconnection service from Qwest. Thus, Charter is not  
7 dependent upon Qwest for the transport between Qwest's central offices and  
8 Charter's POI.

9 **Q. WHAT IS 512 BHCCS?**

10 A. 512 BHCCS or 512 Busy Hour Centum Call Seconds is the measure of usage  
11 capacity of a DS1 trunk during the busiest hour of the day. Usage is measured in  
12 Centum Call Seconds ("CCS") or one hundred call seconds. A line or trunk that is  
13 in use for one hour, or sixty minutes, is being used for 3600 seconds, or 36 hundred  
14 call seconds, or 36 CCS. As stated in Newton's Telecom Dictionary CCS is: "One  
15 hundred call seconds or one hundred seconds of telephone conversation. One hour  
16 of telephone traffic is equal to 36 ccs ( $60*60=3600/100=36$ ) which is equal to one  
17 erlang." Newton's Telecom Dictionary, Volume 17 at 131 (February 2001). 512  
18 BHCCs is essentially equivalent to a DS1 worth of usage. Telecommunications  
19 switch ports typically are provisioned in increments of DS1 capacity. 512 CCS is  
20 generally recognized by the industry as the traffic threshold that indicates a  
21 sufficiently high volume of traffic that would warrant the provisioning of  
22 alternative, direct trunking arrangements.

1 **Q. WHAT IS THE 512 BHCCS RULE?**

2 A. The 512 BHCCS rule establishes the threshold of usage at which point direct  
3 trunking between end offices is typically more efficient than trunking the usage  
4 through a tandem switch.

5 **Q. HOW DOES THE 512 BHCCS RULE CREATE EFFICIENT USE OF THE**  
6 **NETWORK?**

7 A. Qwest's language establishes a threshold that facilitates efficient interconnection  
8 between Qwest switches and CLEC switches. The threshold allows Qwest to  
9 manage traffic through its tandem switches when traffic volumes justify a direct  
10 connection with a specific end office. As illustrated by Exhibits PL-5 and PL-6,  
11 when CLEC traffic that is destined for a Qwest end office switch reaches or exceeds  
12 512 BHCCS, or a DS1's capacity, it becomes logical to direct trunk to that end  
13 office switch. Exhibit PL-5 shows the trunking that may exist when the traffic  
14 volume spread across all end office switches is less than the capacity of a single  
15 DS1 switch port. Exhibit PL-6 demonstrates the direct trunking that should exist to  
16 end office switch A at the point where the 512 BHCCS benchmark is met. This  
17 creates network efficiencies by eliminating the need to provide additional switching  
18 through the tandem.

19 **Q. DOES QWEST USE THE SAME THRESHOLD TO EVALUATE ITS OWN**  
20 **NETWORK TRUNKING EFFICIENCIES?**

21 A. Yes. Qwest applies the same network threshold in its own trunking analysis so that it  
22 may better utilize the trunking capacity between its end offices and tandem switches.

1  
2 **IV. DISPUTED ISSUE NO. 13: TRANSPORT OBLIGATIONS**

3 **Q. PLEASE EXPLAIN THE NATURE OF THE DISPUTE CONCERNING**  
4 **ISSUE NO. 13.**

5 A. Issue No. 13 concerns the language in Sections 7.2 and 7.3 of the ICA related to the  
6 parties' respective transport obligations in connection with Interconnection.

7 **Q. WHAT LANGUAGE IS QWEST PROPOSING FOR THE DISPUTED**  
8 **SUBSECTION 7.2.2.1.2.2?**

9 A. Qwest is proposing the following language:

10 7.2.2.1.2.2 CLEC may purchase transport services from Qwest or from  
11 a third party, including a third party that has leased the private line  
12 transport service facility from Qwest. Such transport provides a facility  
13 for the LIS trunk to be provisioned in order to deliver the originating  
14 Party's Exchange Service EAS/Local traffic to the terminating Party's End  
15 Office Switch or Tandem Switch for call termination, and may be  
16 purchased from Qwest as Tandem Switch routed (i.e., tandem switching,  
17 tandem transmission and direct trunked transport) or direct routed (i.e.,  
18 direct trunked transport). This Section is not intended to alter either  
19 Party's obligation under Section 251(a) of the Act.  
20

21 **Q. WHAT LANGUAGE DOES CHARTER PROPOSE FOR THE DISPUTED**  
22 **SECTION 7.2.2.1.2.2?**

23 A. Charter proposes to modify the Qwest language with the following highlighted  
24 changes:

25 7.2.2.1.2.2 CLEC may purchase transport services from Qwest or from  
26 a third party, including a third party that has leased the private line  
27 transport service facility from Qwest, **to connect any POIs between the**  
28 **networks with CLEC's network. Subject to Section 7.2.2.1.3 below, a**  
29 **delivering Party may at its option direct the receiving Party to**  
30 **establish trunks from the POI either to the receiving Party's Tandem**  
31 **Switch(es), to its End Office Switch(es), or both. The delivering Party**

1           **shall be responsible for paying the receiving Party the appropriate**  
2           **Transport and Termination charges for traffic delivered.**  
3           **Termination charges shall consist of terminating local switching.**  
4           **Transport consists of carrying traffic from the POI to the terminating**  
5           **End Office Switch and** may be purchased as Tandem Switch routed (i.e.,  
6           tandem switching, tandem transmission and direct trunked transport) or  
7           direct routed (i.e., direct trunked transport). This Section is not intended  
8           to alter either Party's obligation under Section 251(a) of the Act.  
9

10   **Q. WHY IS QWEST OPPOSED TO THE CHANGES CHARTER HAS MADE**  
11   **TO SECTION 7.2.2.1.2.2?**

12   A. Charter's proposed changes to Section 7.2.2.1.2.2 create ambiguities such that one  
13   cannot determine precisely what they require. Charter's proposed language also  
14   creates a conflict between Sections 7.2.2.1.3 and 7.2.2.1.2.2. Finally, because  
15   Charter's proposed language makes Section 7.2.2.1.2.2 subject to section 7.2.2.1.3,  
16   Charter's proposed language makes interconnection facilities subject to the 512  
17   BHCCS rule and could be read to require Qwest to interconnect with Charter at  
18   locations outside of Qwest's network and local service area.

19   **Q. HOW IS CHARTER'S PROPOSED LANGUAGE AMBIGUOUS?**

20   A. First, a POI is by definition where two networks meet. Thus, the phrase "to  
21   connect any POIs between the networks with CLEC's network" makes no sense.  
22   Charter's network meets Qwest's network at a POI. Second, because section  
23   7.2.2.1.2.2 allows for transport using a third party, it is unclear whether "any POIs  
24   between the networks" refers to POIs with Qwest or POIs with some other  
25   unidentified provider.

1 **Q. HOW DOES CHARTER'S PROPOSED LANGUAGE IN SECTION**  
2 **7.2.2.1.2.2 CONTRADICT AGREED TO LANGUAGE IN SECTION**  
3 **7.2.2.1.3?**

4 A. In section 7.2.2.1.2.2, Charter's proposed language allows for the originating party  
5 to direct the terminating party to establish direct trunking. However, Charter  
6 proposes to make Section 7.2.2.1.2.2 subject to Section 7.2.2.1.3. Section 7.2.2.1.3  
7 requires the originating party to establish direct trunking. Thus Charter's language  
8 creates a conflict between Sections 7.2.2.1.2.2 and 7.2.2.1.3.

9 **Q. HOW CAN CHARTER'S PROPOSED CHANGES TO SECTION 7.2.2.1.2.2**  
10 **BE READ TO REQUIRE QWEST TO INTERCONNECT AT LOCATIONS**  
11 **OUTSIDE OF QWEST NETWORK AND LOCAL SERVICE AREA?**

12 A. By making section 7.2.2.1.2.2 subject to section 7.2.2.1.3, Charter's proposed  
13 language could be read to apply the 512 BHCCS rule between Qwest's network and  
14 Charter's switching locations outside of Qwest's local service area. As explained  
15 above, the 512 BHCCS rule requires that direct trunking be established at the point  
16 when there is a DS1's worth of traffic routing through a tandem switch destined for  
17 a particular end office. Thus, when traffic between Qwest's network and Charter's  
18 POI reaches 512 CCS, Charter's proposed language could be read to require Qwest  
19 to establish direct trunking from Qwest's network to a Charter switch located  
20 outside of Qwest's network and Qwest's local service area.

21 **Q. DOES THE APPLICATION OF THE 512 BHCCS RULE APPLY TO**  
22 **TRUNKING AT A POI?**

1 A. No. As I described above, a POI is the location where the two networks meet. It  
2 does not have the same capacity limitations as a tandem switch or end office switch.  
3 Charter's attempt to apply the 512 BHCCS rule to the POI is an inappropriate  
4 attempt to force Qwest to build facilities for interconnection with Charter outside of  
5 Qwest's local service area. It is my understanding that Qwest's obligation to  
6 Charter is only to provide interconnection at technically feasible points "within"  
7 Qwest's network.

8 **Q. WHAT LANGUAGE IS QWEST PROPOSING FOR THE DISPUTED**  
9 **SUBSECTION 7.3.2.1.1?**

10 A. Qwest is proposing the following language:

11 7.3.2.1.1 Direct trunked transport (DTT) is available between the  
12 Serving Wire Center of the POI and the terminating Party's Tandem  
13 Switch or End Office Switches. The applicable rates are described in  
14 Exhibit A. DTT facilities are provided as dedicated DS3, DS1 or DS0  
15 facilities.  
16

17 **Q. WHAT LANGUAGE DOES CHARTER PROPOSE FOR THE DISPUTED**  
18 **SUBSECTION 7.3.2.1.1?**

19 A. Charter proposes to modify the Qwest language with the following highlighted  
20 changes:

21 7.3.2.1.1 Direct trunked transport (DTT) is available between the  
22 **terminating Party's** Serving Wire Center **of for** the POI and **that** Party's  
23 Tandem Switch or End Office Switches. ~~The applicable rates are~~  
24 ~~described in Exhibit A.~~ DTT facilities are provided as dedicated DS3,  
25 DS1 or DS0 facilities.  
26

27 **Q. WHY IS QWEST OPPOSED TO THE CHANGES THAT CHARTER**  
28 **PROPOSES BE MADE TO SECTION 7.3.2.1.1?**

1 A. Qwest is opposed to the changes that Charter has made to section 7.3.2.1.1 because  
2 Charter's proposed language could be read to require Qwest to provide transport  
3 outside of Qwest's service territory. This could happen because Charter has  
4 changed the phrase "Serving Wire Center **of** the POI" to "Service Wire Center **for**  
5 the POI." Without Charter's proposed changes, Qwest's obligation to provide  
6 Direct Trunked Transport is an obligation to provide DTT from the Qwest Wire  
7 Center in which Charter's POI is located to Qwest tandems or end offices in  
8 Qwest's service territory. Although it is not clear what Charter intends by its  
9 changes, Charter may be attempting to require Qwest to provide transport from a  
10 Charter wire center for the POI that might be located in California<sup>1</sup>, for example, to  
11 a Charter tandem switch or end office switch located outside of Qwest's service  
12 territory. Qwest does not have an obligation to provide transport outside of its  
13 service territory.

14 **V. DISPUTED ISSUE NO. 16: INDIRECT INTERCONNECTION**

15 **Q. PLEASE EXPLAIN ISSUE NO. 16.**

16 A. Issue 16 concerns new language that Charter proposes regarding indirect  
17 interconnection. This was not an issue that was discussed during the parties'  
18 negotiations.

19 **Q. WHAT LANGUAGE IS CHARTER PROPOSING?**

20 A. Charter proposes the following:

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<sup>1</sup> Prior to September 24, 2008, Charter appeared to be serving Washington customers from a switch located in Riverside California.

1 7.1.2.6 Either Party may deliver Local Traffic and ISP-bound Traffic  
2 indirectly to the other for termination through any carrier to which both  
3 Parties' networks are interconnected directly or indirectly. The Originating  
4 Party shall bear all charges payable to the transiting carrier(s) for such  
5 transit service with respect to Local Traffic and ISP-bound Traffic.  
6

7 7.1.2.7 Unless otherwise agreed, the Parties shall exchange all Local  
8 Traffic and ISP-bound Traffic indirectly through one or more transiting  
9 carriers until the total volume of Local Traffic and ISP-bound Traffic  
10 being exchanged between the Parties' networks exceeds 240,000 minutes  
11 per month for three (3) consecutive months, at which time either Party  
12 may request the establishment of Direct Interconnection. Notwithstanding  
13 the foregoing, if either Party is unable to arrange for or maintain transit  
14 service for its originated Local Traffic upon commercially reasonable  
15 terms before the volume of Local Traffic and ISP-bound Traffic being  
16 exchanged between the Parties' networks exceeds 240,000 minutes per  
17 month, that Party may unilaterally, and at its sole expense, utilize one-way  
18 trunk(s) for the delivery of its originated Local Traffic to the other Party.  
19

20 7.1.2.8 After the Parties have established Direct Interconnection between  
21 their networks, neither Party may continue to transmit its originated Local  
22 Traffic and ISP-bound Traffic indirectly except on an overflow basis to  
23 mitigate traffic blockage, equipment failure or emergency situations.  
24

25 7.1.2.9 Local Traffic and ISP-bound Traffic exchanged by the Parties  
26 indirectly through a transiting carrier shall be subject to the same  
27 Reciprocal Compensation, if any, as Local Traffic and ISP-bound Traffic  
28 exchanged through Direct Interconnection.  
29

30 **Q. WHY IS QWEST OPPOSED TO CHARTER'S LANGUAGE IN SECTION**

31 **7.1.2.6?**

32 A. Charter's language essentially provides Charter with the unlimited ability to route  
33 traffic destined for Qwest's network through any carrier connected to Qwest's  
34 network. This arguably includes carriers that are not interconnected to Qwest with  
35 tandem switches. Thus, traffic that is originated by Charter for termination to  
36 Qwest that transits through a non-tandem switch (i.e. an end office switch) may  
37 become disguised as originating from the switch that is providing the transit

1 service. This is an example of what is known in the industry as “Phantom Traffic.”  
2 If Charter routes its traffic through a switch that is not a tandem, it may impact  
3 other service providers such as CLECs and Independent companies who are  
4 interconnected with Qwest.

5 **Q. WHY IS QWEST OPPOSED TO CHARTER’S LANGUAGE IN SECTION**  
6 **7.1.2.7?**

7 A. Charter’s proposed language in section 7.1.2.7 forces Qwest to use and pay for  
8 transit services provided by another party. In addition, Charter’s language imposes  
9 a network requirement that is not consistent with industry standard or the agreed to  
10 language of this agreement.

11 **Q. WHAT IS TRANSIT TRAFFIC?**

12 A. As agreed to in section 7.2.1.2.4 of this agreement, “Transit traffic is any traffic that  
13 originates from one Telecommunications carrier’s network and/or its end user(s),  
14 transits another telecommunications carrier’s network, and terminates to yet a  
15 another telecommunications carrier’s network and/or its end user(s).” In other  
16 words transit traffic is traffic that originates from one service provider’s network,  
17 routes through another service provider’s network and terminates on yet a third  
18 service provider’s network.

19 **Q. HOW DOES CHARTER’S PROPOSED LANGUAGE FORCE QWEST TO**  
20 **USE AND PAY FOR TRANSIT SERVICES PROVIDED BY ANOTHER**  
21 **PARTY?**

1 A. In the first sentence of section 7.1.2.7 Charter's proposed language forces Qwest to  
2 use a transit provider. Likewise in the last sentence of the preceding section 7.1.2.6  
3 Charter's proposed language requires Qwest to pay for transit services.

4 **Q. HOW CAN THIS TYPE OF ARRANGEMENT BE LEVERAGED BY**  
5 **CHARTER FOR CHARTER'S BENEFIT?**

6 A. Because Qwest would arguably be required to pay transit charges for traffic that  
7 Qwest is required to send through a transit provider, a revenue sharing agreement  
8 might be set up between Charter and the transit provider. This type of arrangement  
9 could be set up such that Charter could receive compensation for every minute of  
10 traffic that would route from Qwest to Charter via the transit provider. Thus, this  
11 would incent Charter to obtain customers that would generate terminating traffic  
12 from Qwest to Charter. This effect would be compounded if multiple transit  
13 providers were inserted in the call flow.

14 **Q. DOES QWEST USE TRANSIT SERVICES OF OTHER PROVIDERS?**

15 A. Yes. Sometimes Qwest uses transit providers when it is economically beneficial for  
16 Qwest to use an indirect connection. However, Qwest has also chosen not to use  
17 transit providers where it is economically beneficial for Qwest to establish direct  
18 connections. In both situations, Qwest has made that decision based on Qwest's  
19 economic need. Qwest's decision whether to use a transit provider does not impose  
20 costs on Charter and is not based on a decision by Charter.

1 **Q. DOES CHARTER'S PROPOSED LANGUAGE CONFORM TO INDUSTRY**  
2 **STANDARDS?**

3 A. No. Charter's language imposes a 240,000 minute of use benchmark that may then  
4 trigger a request for a direct connection. I am not aware of any telecommunications  
5 standard that uses this benchmark. In addition, Qwest does not have a method to  
6 track this benchmark.

7 **VI. CONCLUSION**

8 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

9 A. Yes.